

Hazardous Drinking and Family Functioning in National Guard Veterans and Spouses Postdeployment

Adrian J. Blow
Michigan State University

Lisa Gorman
Michigan Public Health Institute, Okemos, Michigan

Dara Ganoczy
Department of Veterans Affairs, Ann Arbor, Michigan

Michelle Kees
University of Michigan Medical School

Deborah A. Kashy
Michigan State University

Marcia Valenstein
University of Michigan Medical School and Department of
Veterans Affairs, Ann Arbor, Michigan

Sheila M. Marcus
University of Michigan Medical School

Hiram E. Fitzgerald
Michigan State University

Stephen Chermack

VA Ann Arbor Healthcare System, Ann Arbor, Michigan, University of Michigan Medical School, and Department of
Veterans Affairs, Ann Arbor, Michigan

The current study examined rates of alcohol misuse among National Guard (NG) service members and their spouses/partners, concordance of drinking behaviors among couples, and the effects of alcohol misuse, depression, and posttraumatic stress disorder (PTSD) on three measures of family functioning. This study is important because it addresses the topics of heavy drinking and family functioning in an at-risk population—NG service members returning from a combat zone deployment. We surveyed NG service members (1,143) and their partners (674) 45–90 days after returning from a military deployment. Service member rates of hazardous drinking were 29.2% and spouses/partners 10.7%. Of the 661 linked couples, 26.2% were discrepant where only one member met the criteria for hazardous drinking and 5.4% were congruent for alcohol misuse where both members met hazardous drinking criteria. Service members belonging to either congruent or discrepant drinking groups were more distressed in their marriages/relationships than those in the nonhazardous group. In dyadic analyses, an unexpected partner effect was found for parenting outcomes; that is, when service members drink more, their spouses/partners are less stressed when it comes to parenting. Importantly, both service member and spouse/partner depression was significantly associated with negative family outcomes. Results from this study suggest that when working with these families, it is important to understand the drinking status of both soldier and spouse and to treat depression in addition to alcohol misuse.

Keywords: military couples, alcohol misuse, drinking concordance, family functioning, war

Adrian J. Blow, Associate Professor, Department of Human Development and Family Studies, Michigan State University; Lisa Gorman, Program Director, Michigan Public Health Institute, Okemos, Michigan; Dara Ganoczy, Department of Veterans Affairs, Health Services Research and Development Center of Excellence, and Serious Mental Illness Treatment Resource and Evaluation Center, Ann Arbor, Michigan; Michelle Kees, Department of Psychiatry, University of Michigan Medical School; Deborah A. Kashy, Department of Psychology, Michigan State University; Marcia Valenstein, Department of Psychiatry, University of Michigan Medical School, and Department of Veterans Affairs, Health Services Research and Development, Center of Excellence, and Serious Mental Illness Treatment Resource and Evaluation Center, Ann Arbor, Michigan; Sheila M. Marcus, Department of Psychiatry, University of Michigan Medical School; Hiram E. Fitzgerald, University Outreach & Engagement and Department of Psychology,

Michigan State University; Stephen Chermack, Interim Chief, Mental Health Service, Chief, Substance Abuse Clinic, VA Ann Arbor Healthcare System, Ann Arbor, Michigan, Department of Psychiatry, University of Michigan Medical School, and Department of Veterans Affairs, Health Services Research and Development, Center of Excellence, and Serious Mental Illness Treatment Resource and Evaluation Center, Ann Arbor, Michigan.

Funding provided by Families and Communities Together, Michigan State University, Welcome Back Veterans Foundation, and McCormick Foundation, University of Michigan. We thank the service members and their families who volunteered to take part in the study.

Correspondence concerning this article should be addressed to Adrian J. Blow, Associate Professor, Department of Human Development and Family Studies, Michigan State University, 3B Human Ecology, East Lansing, MI 48824. E-mail: blowa@msu.edu

Alcohol misuse is common in military populations, particularly during the time immediately following a deployment (Jacobson et al., 2008; Karney, Ramchand, Osilla, Caldarone, & Burns, 2008; Spera, Thomas, Barlas, Szoc, & Cambridge, 2011). Several service member subgroups appear to be at higher risk for alcohol misuse including those who are combat exposed, younger, who have deployed more frequently and for longer periods of time, and who belong to the National Guard (NG) or Reserves (Jacobson et al., 2008; Spera et al., 2011). Similar to the general population, alcohol misuse in service members commonly co-occurs with mental health problems including posttraumatic stress disorder (PTSD), anxiety, and depression (Boudewyns, Albrecht, Talbert, & Hyer, 1991; Jacobson et al., 2008; Karney et al., 2008).

NG and Reserves with recent combat exposure are more likely to experience new-onset heavy weekly drinking, binge drinking, and alcohol-related problems when compared with NG and Reserve members who did not deploy (Jacobson et al., 2008). The prevalence of these behaviors is of particular concern in that the NG represents a military service branch that may have unique challenges with reintegration and deployment-related mental health issues, but fewer treatment resources (Gorman, Blow, Ames, & Reed, 2011; MacDermid, 2006). NG service members tend to be dispersed throughout home states, live some distance from their unit peers, and may have difficulty accessing reintegration resources including services for medical and mental health needs (e.g., due to limited community resources, financial problems, and/or living a long way from VA hospitals and clinics, or other similar facilities). After these service members return home from deployment, most must resume civilian work or face unemployment. They reside in civilian communities that are often not acculturated to military life and this lack of community understanding may exacerbate difficulties with reintegration (MacDermid, 2006).

Although several studies have examined the prevalence of alcohol misuse in military populations, few studies have examined the NG specifically and those that have report divergent rates of drinking ranging from 15.2% (Jacobson et al., 2008) to 27% (Erbes, Westermeyer, Engdahl, & Johnsen, 2007), depending on the sample and the assessment measure used. There is a need for studies to report on drinking prevalence in NG populations specifically using similar means of assessing problem drinking.

Alcohol Use and Reintegration Into Family Life

Although it is well established in the literature that deployment and reintegration contribute to marital distress (Allen, Rhoades, Stanley, & Markman, 2010; Gewirtz, Polusny, DeGarmo, Khaylis, & Erbes, 2010), increased parenting difficulties (Gewirtz et al., 2010; Gibbs, Martin, Kupper, & Johnson, 2007), and disruptions in family routines (MacDermid Wadsworth, 2010), the role of alcohol misuse in these three areas is not well understood in military populations. This is in contrast to civilian studies of alcohol misuse and family functioning, which indicate that alcohol use in excess can disrupt family life. Theoretically, the postdeployment process seems to be important in laying the foundation for long-term stability in families. Pincus, House, Christenson, and Adler (2001) describe the Emotional Cycle of Deployment stage model, and through this theoretical lens view the postdeployment component of deployment as one that involves a honeymoon period for the

reuniting family members followed by the important tasks of renegotiating and stabilizing family life. We hypothesized that excessive drinking during this critical reintegration time would disrupt the postdeployment period for families.

Marital/Relationship Distress

In civilian populations, the relationship between alcohol misuse and marital discord is positive (Derrick et al., 2010; Floyd, Cranford, Daugherty, Fitzgerald, & Zucker, 2006; Homish & Leonard, 2007; Marshal, 2003). For example, Whisman, Uebelacker, and Bruce (2006) showed that those with discord in their marriages were 3.7 times more likely to develop an alcohol use disorder. Although few studies have examined alcohol misuse and marital distress in military populations, distressed marriages of veterans have been connected to suicide, violence, depression, parenting difficulties, divorce, and poor child outcomes (Allen et al., 2010; Bell, Harford, Fuchs, McCarroll, & Schwartz, 2006; Gorman, 2009; Gewirtz et al., 2010; Gorman et al., 2011; Karney et al., 2008; Marshall, Panuzio, & Taft, 2005). In relation to alcohol misuse, Gorman (2009) found that the service member's hazardous alcohol use had a negative association with his/her own report of relationship adjustment but not his/her spouse's report of relationship adjustment.

Parenting Stress

A growing number of studies have examined child outcomes and parenting stress in military populations (Chandra et al., 2010). Deployment is known to affect the well being of parents, which in turn affects the whole family including children (Chandra et al., 2010; Cozza, Chun, & Polo, 2005; MacDermid Wadsworth, 2010). In MacDermid Wadsworth's review of families in the face of war, she concludes that parents enduring deployment are significantly distressed in their parenting, and that children of these parents are at higher risk for abuse, neglect, and both emotional and behavioral difficulties. Although the nonmilitary literature shows how alcohol misuse interferes with effective parenting (Eiden, Chavez, & Leonard, 1999; Leonard et al., 2000; Whipple, Fitzgerald, & Zucker, 1995), we could find no studies that specifically examined the effects of alcohol use on parenting in military populations postdeployment.

Family Chaos

Deployment and reintegration are times of upheaval and unpredictability that affect everyone in the household. Household routines in particular are disrupted as parents/caregivers deploy, reintegrate, and adapt to these life transitions. Alcohol misuse has been shown to have a significant influence on family routines (Steinglass, Bennett, Wolin, & Reiss, 1987); however, no studies we could find have examined the relationship between alcohol misuse and family routines in military populations. This is of particular interest in that NG military family routines are in a frequent state of flux due to absences associated with military training and deployments. As such, alcohol misuse in NG military families may interact uniquely with family functioning, and in some cases alcohol problems may contribute to higher levels of stress and chaos within the family.

Alcohol Use and Military Spouses/Partners

Recent studies have examined the effects of deployment and reintegration stress on spouses/partners of military personnel (Gorman et al., 2011; Mansfield et al., 2010; note, we refer to spouses/partners as spouses throughout this article). Results by Mansfield et al. (2010) suggest that wives of deployed U.S. Army service members (compared with wives of those not deployed) are more likely to develop mental health symptoms, including depressive, sleep, anxiety, and adjustment disorders. Similarly, Gorman, Blow, Ames, and Reed (2011) found that 34% of spouses of recently deployed NG service members met the screening criteria for one or more mental health problems. Little is known about alcohol misuse specifically in spouses of service members and there is a need to understand whether these spouses are vulnerable to increased alcohol misuse as they deal with the stress of deployment. In addition, a better understanding is needed related to how spousal drinking along with the drinking of their service member partner together impacts family functioning. Evidence from non-military families robustly demonstrates that alcohol abuse by one member of a marital dyad can have a negative impact on all members of the family, including correlated antisocial behavior, depression, and lifetime-alcohol problems (Fitzgerald, Zucker, Puttler, Caplan, & Mun, 2000; Nolen-Hoeksema, Wong, Fitzgerald, & Zucker, 2006).

Couple Drinking Partnerships

In studying alcohol misuse and family functioning, the literature suggests that there may be differences in family outcomes when one or both parties in the couple relationship engage in problem drinking. Although there is limited information about drinking patterns in military couples, couple drinking partnerships have been the focus of several studies with other populations (Derrick et al., 2010; Floyd et al., 2006; Graham & Braun, 1999; Homish & Leonard, 2005; Wiersma, Cleveland, Herrera, & Fischer, 2010). In general, these studies suggest that the most problematic drinking pattern for marital/relationship satisfaction is when drinking is discrepant (i.e., one party drinks and the other does not). These studies also suggest that congruent patterns of drinking or non-drinking behaviors (i.e., when both parties drink or when neither party drinks) within couple relationships do not influence the overall happiness of marriages (Floyd et al., 2006; Homish & Leonard, 2005, 2007; Mudar, Leonard, & Soltysinski, 2001; Roberts & Leonard, 1998; Roberts & Linney, 2000). Homish and Leonard (2005) suggest that when both partners use alcohol, it enhances their relationship as they socialize through their drinking behaviors. Drinking partnerships within couple relationships is an important area of exploration, especially when considering post-deployment reintegration (Wiersma et al., 2010).

Purpose of the Study

This study focuses on the relationship between alcohol misuse and family outcomes in a sample of NG service members and their spouses 45–90 days after returning from a military deployment in Afghanistan or Iraq. The study purposes are threefold: (a) to examine rates of problem drinking in service members and their spouses shortly after return from deployment. This is needed due

to the inconsistent prevalence rates reported in the literature on NG service member alcohol misuse, and very limited information about rates of spouse drinking; (b) to examine the effects of both service member and spouse hazardous alcohol use on relationship satisfaction, parenting stress, and family chaos, while controlling for depression and PTSD; (c) to examine congruent and discrepant partner drinking and how different drinking configurations among NG couples are associated with relationship satisfaction, parenting stress, and family chaos. We hypothesized that higher rates of hazardous drinking in service members and spouses would be significantly associated with increased marital distress along with increases in both parenting stress and family chaos, while controlling for PTSD and depression. In terms of couple configurations, we hypothesized that rates of family distress would be higher among couples with discrepant drinking patterns, that is, that congruent hazardous and nonhazardous drinking couples would report less distressed family outcomes than discrepant drinking couples.

Because these were service members returning from war zones, we expected that PTSD and depression would also be significantly associated with these family outcomes (for both service members and spouses) given their central role in the literature as important variables of concern in military populations (Allen et al., 2010; Gewirtz et al., 2010; Gorman et al., 2011; Meis, Barry, Kehle, Erbes, & Polusny, 2010; Sayers, Farrow, Ross, & Oslin, 2009). While PTSD and depression could be predictors of focus in their own right (Gorman, 2009; Gorman et al., 2012), in this article, alcohol misuse was our variable of primary interest given the high rate of usage in this population, and established comorbidity with PTSD and depression. However, studying alcohol use without simultaneously considering PTSD and depression might result in incorrectly attributing difficulties exclusively to alcohol.

Method

Procedure

The Institutional Review Boards at Michigan State University and the University of Michigan approved this study. Participants were NG service members and their spouses attending mandatory (for service members) reintegration weekends between October 2007 and December 2009. To participate, spouses had to be in a committed romantic relationship with the service member. The 2-day reintegration programs took place approximately 45–90 days following the service member's return home from a 12-month deployment in either Iraq or Afghanistan. Data collection incorporated two distinct samples. In the first sample, participants received a \$10 gift card incentive and the response rate was 40.3% for service members ($n = 333$) and 35.9% for spouses ($n = 211$; 200 linked couples). In the second sample, participants received a higher incentive of \$25 and the response rate was 72.3% for service members ($n = 810$) and 71.4% for spouses ($n = 463$; 461 linked couples). Because of the voluntary nature of the study, we do not know why individuals chose not to participate. There are a variety of possible reasons including the lower incentive in the first sample.

The study opportunity was announced to potential participants at a time when all were together in one room, with an emphasis on the voluntary and anonymous/confidential nature of the survey.

Participants completed the 30–45 minute survey on-site during a nonscheduled portion of the conference.

Participants

A total of 1,143 NG members and 674 spouses were in the final data set, including 661 linked couples. A small number (19) of the couples were dual military, and for the purpose of this study, we considered the service member the one who was most recently deployed and the spouse as the one who stayed home during the most recent deployment. This data set was used to conduct the prevalence analyses as well as the analyses involving couple drinking concordance. Because the two samples used different measures of depression and PTSD, the dyadic analyses only used the second sample (461 linked couples).

Outcomes and Measures

Alcohol use. The Alcohol Use Disorders Identification Test (AUDIT; Saunders, Aasland, Babor, de la Fuente, & Grant, 1993) assessed hazardous alcohol use by participants (participants reported on their *own* alcohol use). This 10-item self-report measure provides good discrimination across multiple cultures, socioeconomic groups, and genders and has high reliability ($r = .86$; Babor, Higgins-Biddle, Saunders, & Monteiro, 2001). The total AUDIT Cronbach's alpha for this study was .86. We used total scores of 8 or more as indicators of hazardous alcohol use (Babor et al., 2001).

Dyadic satisfaction. Relationship (dyadic) satisfaction was measured using the Revised Dyadic Adjustment Scale (RDAS; Busby, Christensen, Crane, & Larson, 1995). The RDAS consists of 14 items and has good psychometric properties with a Cronbach's Alpha of .90 (Busby et al., 1995), .89 for this study.

Parenting stress. Parental stress was measured using the 18-item Parental Stress Scale (Berry & Jones, 1995). The measure contains 18 items and lower total scores reflect less stress associated with parenting. The total Cronbach's alpha for this measure was .87 for this study.

Household routines. The Confusion, Hubbub, and Order Scale (CHAOS; Matheny, Wachs, Ludwig, & Phillips, 1995) is a 15-item questionnaire assessing characteristics of noise, confusion, clutter, frantic activities, and disorganization in the household. Each item is rated on a 4-point scale, and higher numbers indicate a more chaotic, disorganized, and hurried home. The Cronbach's alpha for this study was .82.

Depression. Two different measures assessed depression across the two samples of data collection. In the first sample, the Beck Depression Inventory Second Edition (BDI-II; Beck, Steer, & Brown, 1996) was used. To streamline survey procedures, the shorter Patient Health Questionnaire (PHQ-9) was used in the second data collection sample. Because of difficulties doing analyses with two different measures of depression, we only used the second sample (PHQ-9) in dyadic analyses that involved depression (461 linked couples). The PHQ-9 has been reported to have good construct validity and reliability as a measure of depressive symptoms in the general population (Martin, Rief, Klaiberg, & Braehler, 2006). The PHQ-9 Cronbach's alpha for this study was .88 and the BDI-II Cronbach's alpha was .91.

Posttraumatic Stress Disorder (PTSD). PTSD was assessed using the PTSD Checklist-Military Version (PCL-M; Weathers,

Litz, Herman, Huska, & Keane, 1993), a 17-item self-report measure of PTSD symptoms. In reference to the past 30 days, respondents were asked to answer each item related to their most distressing military event on a 5-point Likert scale. The total PCL Cronbach's alpha for this study was .95. For spouses, PTSD was assessed with the Short Screening Scale for *DSM-IV* PTSD (Breslau, Peterson, Kessler, & Schultz, 1999) in Sample 1 and with the PTSD Checklist-Civilian Version (PCL-C; Weathers et al., 1993) in Sample 2. In completing the PCL-C, spouses were asked to identify whether they had ever experienced a Criterion A event. They then completed the PCL-C in reference to symptoms related to this event within the past 30 days. Again, because of difficulties in conducting analyses with two different measures, we used only the second sample with the PCL-C in the dyadic analyses (461 linked couples).

Combat exposure. Combat exposure was assessed by asking service member participants the question: How many times were you in serious danger of being injured or killed? Participants could answer *Never* (0), *Seldom* (1), *Often* (2), or *Constantly* (3) in response.

Drinking Couple Configurations

Based on drinking patterns, three configurations of couples were derived from the 661 linked couples: (a) nonhazardous alcohol use couples where neither partner met the hazardous drinking cut off; (b) congruent hazardous alcohol misuse couples where both partners met the hazardous drinking cut off; and (c) discrepant hazardous alcohol misuse couples where only one partner met the hazardous drinking cut off.

Results

As presented in the summary of study demographics in Table 1, the service member sample was largely male (89.0%) and the spouse sample was mostly female (95.6%). Caucasians made up 83.8% of the total sample followed by African Americans (6.9%), Hispanics (3.2%), Native Americans (1.5%), Asian Americans (1.4%), and Multiethnic persons (1.3%). In comparison to Army NG demographics, our sample includes more males (89.0% vs. 85.9% nationally), more married (54.9% vs. 44.3% nationally), and more with children (61.0% vs. 40.1% nationally; Department of Defense, 2008).

Problem Drinking Prevalence

Hazardous drinking was present in 29.2% of NG service members and in 10.7% of spouses. For service members the mean AUDIT score was 13.7 ($SD = 6.3$) for the problem drinkers and 3.0 ($SD = 2.2$) for the nonproblem drinkers. For spouses, the mean AUDIT score was 12.2 ($SD = 4.6$) for the problem drinkers and 2.3 ($SD = 2.0$) for the nonproblem drinkers. In conducting a closer item analysis of responses to the specific AUDIT items for those who met the criteria for hazardous drinking, 75% reported drinking at least 2–3 times a week, 11.3% needed a drink to get going in the morning at least monthly, 27.3% reported a blackout after drinking at least monthly, and 21.9% indicated feelings of guilt after drinking (monthly or more often). The trend was similar for spouses who met the criteria for hazardous drinking; 62% reported using

Table 1
Demographic Characteristics of Study Participants

Variable	Service members (<i>n</i> = 1,143) <i>n</i> (%)	Spouses/SO (<i>n</i> = 674) <i>n</i> (%)	Total sample ^a (<i>n</i> = 1,817) <i>n</i> (%)
Age			
18–21	134 (11.8)	92 (13.7)	226 (12.5)
22–30	426 (37.5)	224 (33.4)	650 (36.0)
31–50	534 (47.0)	326 (48.6)	860 (47.6)
51–60 +	41 (3.6)	29 (4.3)	70 (3.9)
Gender			
Female	123 (11.0)	633 (95.6)	756 (42.5)
Male	992 (89.0)	29 (4.4)	1,021 (57.5)
Ethnicity			
African American	77 (7.4)	37 (6.0)	114 (6.9)
Caucasian	872 (83.6)	520 (84.1)	1,392 (83.8)
Hispanic	30 (2.9)	23 (3.7)	53 (3.2)
Native American	16 (1.5)	9 (1.5)	25 (1.5)
Asian American	14 (1.3)	9 (1.5)	23 (1.4)
Other	34 (3.3)	20 (3.2)	54 (3.3)
Education			
Some high school	3 (0.3)	16 (2.4)	19 (1.1)
High school diploma/GED	299 (26.8)	121 (18.4)	420 (23.7)
Some college	440 (39.5)	240 (36.6)	680 (38.4)
Associate degree/Technical certificate	163 (14.6)	121 (18.4)	284 (16.1)
Bachelor's degree	159 (14.3)	123 (18.8)	282 (15.9)
Master's degree	43 (3.9)	30 (4.6)	73 (4.1)
MD, JD, PhD	8 (0.7)	5 (0.8)	13 (0.7)
Military rank			
E1–E4	495 (45.1)	N/A	495 (45.1)
E5–E6	353 (32.2)	N/A	353 (32.2)
E7–E9	120 (10.9)	N/A	120 (10.9)
O1–O3	75 (6.8)	N/A	75 (6.8)
O4–O9	42 (3.8)	N/A	42 (3.8)
WO1–5	13 (1.2)	N/A	13 (1.2)
Marital status			
Married	616 (54.9)	519 (78.1)	1,135 (63.5)
Engaged	90 (8.0)	68 (10.2)	158 (8.8)
Divorced	78 (7.0)	7 (1.1)	85 (4.8)
Cohabiting	35 (3.1)	24 (3.6)	59 (3.3)
Separated	20 (1.8)	1 (0.2)	21 (1.2)
Other	18 (1.6)	15 (2.3)	33 (1.9)
Single	265 (23.6)	31 (4.7)	296 (16.6)
Family income			
Below \$20,000	213 (18.9)	119 (18.2)	332 (18.6)
\$20,001 to \$40,000	378 (33.5)	190 (29.1)	568 (31.9)
\$40,001 to \$75,000	360 (31.9)	214 (32.7)	574 (32.2)
Over \$75,000	178 (15.7)	131 (20.0)	309 (17.3)
Parents			
Yes	622 (61.0)	463 (70.3)	1,085 (64.6)
No	398 (39.0)	196 (29.7)	594 (35.4)

^a Because some respondents did not complete some survey items, numbers do not all add to the sample total.

alcohol at least 2–3 times a week, 8.6% of spouses needed a morning drink to get going at least monthly, 21.4% reported a blackout after drinking at least monthly, and 21.4% indicated feelings of guilt after drinking (monthly or more often).

Data were examined for differences in drinking based on demographic characteristics. As expected, service members who engaged in hazardous drinking tended to be younger ($< = 30$), male, less educated, E1–E4 rank, not married, childless, and have a lower income ($< = \$30,000$). In the spouse/significant other sample, those meeting the criteria for hazardous drinking were younger, not married, and childless.

In comparing the two samples, there were significant differences in age (Sample 2 was younger), marital status (more married in

Sample 1), and alcohol misuse (more misuse in Sample 2). Service members in Sample 1 had proportionately more combat exposure than Sample 2 over all deployments, although there were no significant differences in PTSD between the two samples for service members.

In looking at combat exposure across the combined samples, 60.5% reported minimal/no combat exposure on the previous deployment, and 39.5% reported that combat exposure was intensive (often or constant). For the combined sample, the correlation between combat exposure on the most recent deployment and alcohol use was -0.01 and was nonsignificant.

In terms of drinking configurations across couples, 26.2% of the pairs met the criteria for the discrepant hazardous alcohol misuse

group where only one party was a hazardous drinker (79.3% of whom were service members); 5.4% met the criteria for the congruent hazardous alcohol misuse group where both parties met the hazardous drinking criteria; and 68.4% met the criteria for the nonhazardous alcohol use couples group where neither party met the hazardous drinking criteria. For the discrepant hazardous alcohol misuse couples, the mean difference score between service members and spouses was 9.0 ($SD = 5.4$). For congruent hazardous alcohol misuse couples, the mean difference score between service members and spouses was 7.4 ($SD = 7.3$). For nonhazardous alcohol use couples, the mean difference score was 1.8 ($SD = 1.6$).

Drinking Behaviors and Relationship to Family Functioning

Table 2 presents the bivariate correlations for the main study variables. The diagonal of the table includes the cross-partner correlations. The correlations above the diagonal are for the service members, and those below the diagonal are for spouses. For service members, there are significant correlations between alcohol use and relationship satisfaction, parenting stress, PTSD, and depression but not family chaos. In addition, strong correlations exist for depression and PTSD with all other variables, although depression was the most strongly correlated. For spouses, alcohol use was significantly correlated with parenting stress, PTSD, and depression. PTSD and depression were also significantly correlated with all other variables. Because of their significance, PTSD and depression were included in all models. Table 2 also indicates that service members reported significantly higher levels of family chaos and alcohol use than their spouses.

Actor–Partner Interdependence Model Analyses and Results

Because of the common experience and influence of partners in a coupled relationship, these data are inherently dyadic and analyses must account for the nonindependence of partners' scores. We

used the Actor–Partner Interdependence Model (APIM; Kenny, Kashy, & Cook, 2006) as our data analytic approach focused on the relationship between alcohol misuse and family outcomes (see Figure 1). According to the APIM, when two individuals are linked, each person's outcomes are a function of his or her own inputs (i.e., actor effects) and his or her partner's inputs (i.e., partner effects). We, therefore, examined the extent to which the person's outcomes, for example, parenting stress, could be associated with that person's own hazardous alcohol use (actor effects) and their partner's alcohol use (partner effects). We estimated the APIM parameters using multilevel modeling and only included Sample 2 in these analyses because different measures of depression and PTSD were used in the two samples.

Table 3 presents the standardized and unstandardized regression coefficients derived from the APIM analyses. For each of the three outcomes, we predicted the service member's and spouse's outcomes as a function of their own hazardous alcohol use, PTSD, and depression (i.e., actor effects), as well as their partner's alcohol use, PTSD, and depression (i.e., partner effects). We hypothesized that higher rates of hazardous drinking in service members and spouses would be associated with decreased dyadic satisfaction, and increased parenting stress, and family chaos.

For alcohol misuse, results for this model show a marginally significant partner effect ($p < .10$) for family chaos for service members, that is, when service members' spouses drank more, service members perceived more family chaos. No other negative effects of drinking on the three family outcomes emerged. However, an unexpected finding was a significant ($p < .05$) positive partner effect for spouses on parenting stress; that is, when service members drink more, their spouses report less stress in their own parenting.

The results in each of the three panels of Table 3 show significant ($p < .01$) actor effects for depression for both service members and partners on relationship satisfaction, parenting stress, and family chaos. Service members and spouses who were more depressed reported lower relationship satisfaction, higher parenting stress, and higher family chaos. The results also indicate significant partner effects for depression (both service members

Table 2
Correlations, Means, Standard Deviations, and Paired T-Tests for Service Members and Spouses in the Linked Data Set
($n = 661$ Couples)

	1	2	3	4	5	6
1. Relationship satisfaction	.59**	-.31**	-.42**	-.21**	-.26**	-.33**
2. Parenting stress	-.30**	.27**	.45**	.19**	.22**	.29**
3. Family chaos	-.44**	.48**	.52**	.12	.24**	.39**
4. AUDIT	-.08	.17**	.09	.27**	.24**	.21**
5. PTSD	-.25**	.21**	.24**	.29**	.13**	.58**
6. Depression	-.37**	.33**	.36**	.29**	.57**	.20**
Service member						
<i>M</i>	49.64	36.17	31.22	6.17	29.65	5.91
<i>SD</i>	9.18	9.56	7.09	5.91	13.46	5.35
Spouse						
<i>M</i>	50.18	35.42	30.10	3.80	28.59	5.85
<i>SD</i>	9.58	10.10	7.19	4.24	13.77	5.08
Paired <i>t</i> -tests	1.33	1.06	2.66**	7.94**	1.19	.19

Note. Correlations above the diagonal are for the service member and correlations below the diagonal are for the spouse. The diagonal contains the cross-partner correlations.

** $p < .01$.

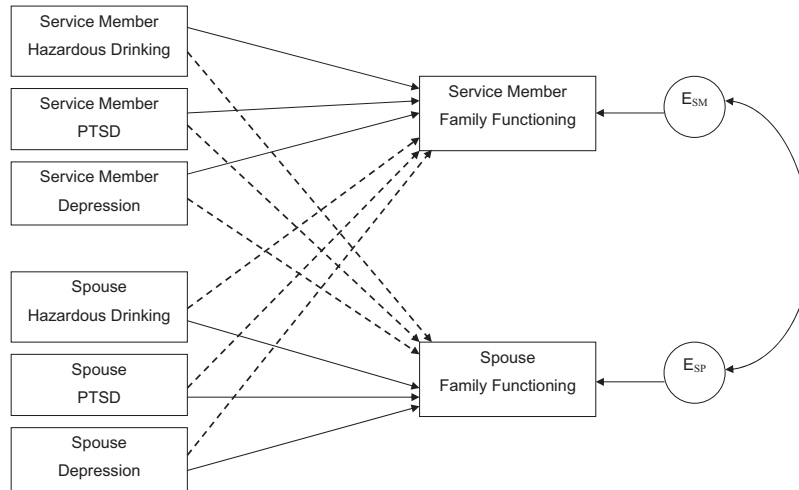


Figure 1. The Actor-Partner Interdependence Model. Actor effects are indicated with solid lines and partner effects are indicated with dashed lines. Although not indicated, all predictors were allowed to correlate.

and spouses) on relationship satisfaction, suggesting that spouse's depression negatively influences the service member's experience of their relationship. In addition, there were significant partner effects for spouse parenting and family chaos indicating that when service members were depressed, their spouses experienced more parenting distress and perceived greater family chaos. Notably, the spouse's depression only predicted the service member's relationship satisfaction and was not a significant predictor of the service member's reports of parenting stress and chaos.

With regards to PTSD, there is evidence that spouses with higher PTSD reported marginally significant ($p < .10$) lower relationship satisfaction. There is also evidence that service members whose spouses were higher in PTSD reported greater perceived parenting stress ($p < .05$) and more disorganized, chaotic family environments ($p < .05$).

The APIM analyses were also conducted controlling for the individual's age, whether they were parents or not, and the level of combat exposure experienced by the service member. Including these control factors did not change the results or conclusions supported by Table 3.

Drinking Concordance/Discordance Between Spouses and Family Outcomes

We expected that service members and spouses in discrepant hazardous drinking couples would experience more distressed family outcomes than couples where neither or both parties engaged in hazardous drinking. To test this hypothesis, separate one-way ANOVAs examined the main effect of pair group on the outcomes of dyadic satisfaction, parenting stress, and family chaos.

Results (see Table 4) partially supported the hypothesis. There were no significant between-groups differences for spouse family outcomes for hazardous drinking; however, there were some significant between group differences (nonhazardous, congruent hazardous, discrepant hazardous) for service member outcomes. Non-hazardous alcohol-congruent couples fared the best of all. Service members belonging to both discrepant and congruent hazardous drinking couples had significantly less ($p < .05$) dyadic satisfac-

tion than those belonging to nonhazardous alcohol-congruent couples. Service members in both discrepant drinking couples and nonhazardous alcohol using couples had significantly less ($p < .05$) parenting stress than congruent hazardous drinking couples. In relation to household chaos, although there were no significant differences for discrepant drinking couples, service members belonging to nonhazardous alcohol using couples had significantly less ($p < .05$) household chaos than those belonging to congruent hazardous alcohol use couples.

Discussion

Problem Drinking Prevalence

This study reports on drinking behaviors and family outcomes in a sample of recently deployed NG service members and their spouses. Results show that at 45–90 days into the reintegration process, 29.2% of NG service members met the criteria for hazardous drinking behaviors, and a closer inspection of AUDIT scores reveals that a sizable number are engaging in drinking behaviors that are more than “postdeployment partying.” In comparison to other studies of military populations using the AUDIT and a cut-off of 8, alcohol use in this NG population was fairly high although comparable to other studies of the NG who deployed to Operation Enduring Freedom/Operation Iraqi Freedom. One study of active duty Air Force personnel found that 13.7% of men in the sample met the criteria for hazardous drinking (Foran, Smith Slep, & Heyman, 2011), and another study of Air Force members found that 9% had an AUDIT score of 8 or higher (Spera et al., 2011). In a study of NG and Reserve service members, 27% screened positively for hazardous alcohol use (Erbes et al., 2007), and in a different study of NG members, 30.5% screened positive for hazardous alcohol use (Meis, Erbes, Polusny, & Compton, 2010). As can be seen from these studies, there is a wide range of prevalence rates of hazardous alcohol use depending on the study population and location. Our findings are similar to other studies assessing recently returned NG service members (Erbes et al., 2007; Meis et al., 2010) and represent a high level of alcohol use in this population.

Table 3
Predicting Relationship Satisfaction, Parenting Stress, and Family Chaos With Actor and Partner Drinking, PTSD, and Depression

Predictor	Service member's relationship satisfaction			Spouse's relationship satisfaction		
	<i>B</i>	<i>SE</i>	β	<i>B</i>	<i>SE</i>	β
AUDIT						
Own	-.10	.07	-.06	.14	.11	.08
Partner's	-.08	.11	-.05	-.03	.08	-.02
PTSD						
Own	-.02	.04	-.03	-.07 ⁺	.04	-.10
Partner's	.02	.04	.04	.05	.04	.07
Depression						
Own	-.47**	.10	-.26	-.54**	.11	-.29
Partner's	-.33**	.10	-.18	-.36**	.10	-.20
Predictor	Service member's parenting stress			Spouse's parenting stress		
	<i>B</i>	<i>SE</i>	β	<i>B</i>	<i>SE</i>	β
AUDIT						
Own	.18	.11	.10	.27	.18	.15
Partner's	.04	.18	.02	-.26*	.12	-.14
PTSD						
Own	.05	.05	.07	.06	.06	.09
Partner's	.11*	.05	.16	-.01	.06	-.00
Depression						
Own	.37**	.14	.19	.45**	.15	.24
Partner's	-.22	.15	-.12	.41**	.14	.22
Predictor	Service member's family chaos			Spouse's family chaos		
	<i>B</i>	<i>SE</i>	β	<i>B</i>	<i>SE</i>	β
AUDIT						
Own	.01	.08	.01	-.06	.13	-.04
Partner's	.22 ⁺	.13	.17	.02	.09	.02
PTSD						
Own	.01	.04	.02	.06	.04	.11
Partner's	.08*	.04	.16	.00	.04	.01
Depression						
Own	.35**	.10	.26	.37**	.11	.27
Partner's	.09	.10	.07	.25*	.10	.18

⁺ $p < .10$. * $p < .05$. ** $p < .01$.

The current study is one of the first to assess drinking behaviors in military spouses, specifically with NG spouses, and 10.7% met the screening criteria for hazardous alcohol use. It is important to note that 96% of spouses were women. Overall, spouses are engaging in less hazardous drinking when compared with service members, but slightly higher rates in comparison to a national population survey, where 8.4% of women reported engaging in heavy drinking (National Center for Health Statistics, 2007). A closer inspection of problem drinking behaviors on the AUDIT shows that approximately 20% of these drinking spouses are engaging in problem drinking behaviors beyond socializing or partying.

Actor–Partner Interdependence Model and Family Outcomes

In the APIM models, contrary to expectations, alcohol use was not strongly associated with family outcomes. There was one association of note. An unexpected finding was a positive partner effect for spouse alcohol misuse on parenting stress. This finding suggests that spouses are less stressed in their parenting when their

service member partners are engaging in alcohol misuse. We speculate that these service members may be less involved in household and parenting tasks due to their drinking, leading to less disruption in the routines set up by the spouse during the deployment. Alternatively, this could also be connected to the “honeymoon period” after reintegration as suggested by Pincus et al. (2001), that is, the spouse partner is happy to have the service member home and family life is less stressful, even with heavy drinking. Longitudinal research beyond the 45–90 day window after reintegration is necessary to examine other factors contributing to this finding.

Importantly, depressive symptoms were significantly associated with family outcomes including significant actor and partner effects for spouses on all family outcomes and significant actor effects for service member depression, parenting stress, and family chaos, and significant partner effects for service member relationship satisfaction. In spite of our hypotheses about the role of alcohol in family outcomes, it appears that depression is much more closely related to disruptions in family outcomes. The present findings build on earlier findings of significant actor effects for depression where depression was associated with relationship and parental distress in service members and spouses, even when controlling for PTSD and alcohol misuse (Gorman, 2009). In our other article, focused on marital satisfaction using this same data set (Gorman et al., 2012), we talk in detail about the role of depression in relationship dynamics. In that article, we found that while controlling for PTSD and alcohol use, actor and partner effects for depression accounted for between 14.1% and 20.3% of the variance in relationship adjustment for NG couples postdeployment. This study adds to that finding showing significant actor effects for both service members and spouses for depression on parenting stress and household chaos. Interestingly, there were no partner effects for service members' parenting stress and chaos in relation to depression, but these partner effects were present for spouses. Service members may be more accommodating to the depression of their spouses postdeployment given the stress that they have been through. Conversely, spouses may be less accommodating of service member depression due to the expectation that they should be happy to be home, and these attributions may increase stress for spouses.

PTSD had a significant partner effect for both parenting stress and family chaos in service members showing that spouse PTSD is associated with higher perceived parenting distress and family chaos for service members. Spouse PTSD is an understudied area and more research is needed to examine how this influences the reintegration process.

Of note is that recent combat exposure was not significant in any of the models as a factor related to family distress and alcohol use. This may be a unique feature of a NG unit, or the timing of survey completion in relation to combat deployments.

Couple Drinking Configurations

We also studied drinking configurations across couple relationships and the relationship of these configurations with family outcomes; 26.2% of couples were discrepant drinking couples, 5.4% were congruent hazardous drinkers, and the remainder were nonhazardous alcohol using couples. It should be noted that the mean difference score between service members and spouses for congruent hazardous alcohol misuse couples (7.4) was similar to

Table 4
Couple Drinking Configurations and Family Outcomes for Service Members and Spouses

	Nonhazardous alcohol use Mean (SD)	Congruent hazardous alcohol misuse Mean (SD)	Discrepant hazardous alcohol misuse Mean (SD)	F	p
Dyadic satisfaction	<i>n</i> = 432	<i>n</i> = 31	<i>n</i> = 163		
Service members	51.21 (8.12) ^{1, 2}	45.71 (10.25) ¹	47.58 (10.25) ²	13.81	<.001
Spouses/SO	50.46 (9.05)	48.26 (8.87)	48.80 (10.52)	2.33	.10
Parenting stress	<i>n</i> = 318	<i>n</i> = 15	<i>n</i> = 86		
Service members	35.47 (9.04) ¹	44.20 (10.60) ^{1, 2}	37.17 (8.23) ²	7.56	.001
Spouses/SO	35.43 (9.19)	40.13 (11.48)	35.28 (11.23)	1.73	.18
Family chaos	<i>n</i> = 196	<i>n</i> = 12	<i>n</i> = 66		
Service members	30.52 (7.07) ¹	36.33 (7.09) ¹	32.53 (6.78)	5.35	.01
Spouses/SO	29.57 (6.82)	30.42 (9.34)	31.64 (7.85)	2.04	.13

Note. Similar superscripts in a given row indicate significant differences between groups ($p < .05$).

Sample sizes differ in this table because not all in the total sample were in a committed relationship, not all were parents, and only Sample 2 completed the Family Chaos measure.

the score for discrepant hazardous alcohol misuse couples (9.0). This indicates that for both these couple configurations, service members are drinking far more than their spouses.

These drinking configurations were significantly associated with only the service member's family outcomes. When either one or both parties in a relationship misuse alcohol, service members are significantly less happy in their relationships than in couple configurations where neither party misuses alcohol. Service members are more distressed as parents in the group where both parties misuse alcohol. Service members also view their homes as more chaotic when both parties misuse alcohol. Discrepant drinking was only a problem in terms of relationship satisfaction, which is consistent with other studies (Floyd et al., 2006; Homish & Leonard, 2007). We speculate that if the service member is the one drinking in the discrepant couples, this would be less disruptive to parenting and household routines than if both were drinking heavily, that is, the spouse would still be able to maintain the home environment as he or she had done during deployment. It is likely that risky drinking will change over time with some cases growing worse and in other cases improving. These findings suggest that in the months following return from deployment, that if the service member is the one engaging in heavy drinking, it might be less disruptive than if both partners were drinking heavily. It should be noted that only a small number of the total couples ($n = 31$) fell into the congruent drinking group which may limit these findings. Although these findings are different when compared with studies of civilian populations, which suggest that congruent drinking does not affect marital quality (Homish & Leonard, 2005), the difference in this study may be related to the process of reintegration that these service members were engaged in at the time of data collection. This is a mixed time for families who are celebrating their return home (which likely involves drinking) but who are also facing stress related to reorganizing roles and relationships within the home (Pincus, House, Christenson, & Adler, 2001).

These findings have implications for the reintegration of service members into the home environment following a military deployment, especially the NG. All service member family outcomes were the most stressed when one or both in the couple relationship drank in excess. Drinking in couple relationships also complicates the family reintegration process for service members. Although discrepant drinking was a concern for service member dyadic

satisfaction, it was not a concern when it came to parenting stress, which was significantly less than the congruent drinking couples in the months following return from deployment. This may be because if the service member was drinking heavily postdeployment, the spouse was still able to maintain the same parenting routines as were employed during the deployment. While it is unclear how these drinking configurations play out over time, our findings suggest that early in the reintegration process, hazardous alcohol use is associated with some family stress for service members. It is unclear as to why spouses were not similarly stressed in their family outcomes; we hypothesize that drinking may be less problematic for spouses in that it represents a time of more relaxation following the stress of maintaining the household during the deployment.

Implications

These findings suggest that drinking is only minimally associated with family outcomes early in the reintegration process. Drinking seems to be most problematic for service member family distress when both parties in the relationship are using alcohol heavily. This suggests that drinking in and of itself is not directly related to family difficulties, but exerts its influence indirectly via variations in drinking patterns within the spousal dyad. In contrast to drinking, depression seems to be much more of a problem in the postdeployment period, especially as it is related to dyadic distress, parenting, and family chaos. Alcohol use may not be the first target of intervention when problems present in these families, but rather it might be indicated to treat underlying depression as a first priority and then a focus on problem drinking should that be necessary. Although individual interventions might be ideal for depression, couple therapy interventions can be effective in reducing family related depression and alcohol use, improving marital/relationship functioning, improving parenting alliances between parents, and positively impacting the behavior of children (Beach & Whisman, 2012; Johnson, 2000; Rotunda, O'Farrell, Murphy, & Babey, 2008). Evidence-based couple interventions such as Emotionally Focused Couple Therapy (Johnson, 2002), Integrative Behavioral Couple Therapy (Christensen & Jacobson, 2002), or Behavioral Couples Therapy (Rotunda et al., 2008) may be useful with this population. Parenting interventions focused on reducing parenting stress, can include helping parents "get on the same

page” in terms of parenting, and on reducing household chaos through helping parents implement routines and helping parents negotiate appropriate breaks from home for self care needs.

Limitations

This study is limited by sampling occurring only from one state in the U.S. Although a strength of the study is its focus on a NG population, this also necessarily limits the generalizability of our findings beyond NG populations. Assessments of participants occurred relatively soon after they returned from deployment and because service members only recently returned home, family outcomes may worsen over time as the drinking behaviors might not have had time to have an effect on family functioning, or, alternatively, family outcomes may improve as these drinking behaviors may lessen as reintegration is completed. The cross-sectional study limits inferences about causation that can be made from these findings. In addition, although one would expect alcohol use disorders to be identified in any sample drawn from the general population, we were unable to assess how many of our sample had alcohol use disorders of any kind before deployment. In addition, reintegration is an overall stressful time and this in and of itself has an effect on family functioning. In comparing different couple drinking configurations, the congruent drinking couples group was much smaller than the other two and this may affect the generalizability of findings.

Future Research

Longitudinal data will help understand more about the nature of the relationship among hazardous alcohol use, mental health problems, and family functioning. These types of studies will help clarify the temporal relationships among such problems and help to identify risk and protective factors related to the course of such problems. Finally, it is likely that the service needs of returning NG members and their families may be unique when compared with other military branches, and it will be important to examine the impact of existing treatment interventions (e.g., alcohol treatment, psychotherapy, and other mental health interventions) as well as novel approaches to service delivery that are feasible to implement and address common barriers to care among NG families (e.g., financial, transportation/distance, and need for childcare).

References

- Allen, E. S., Rhoades, G. K., Stanley, S. M., & Markman, H. J. (2010). Hitting home: Relationships between recent deployment, posttraumatic stress symptoms, and marital functioning for army couples. *Journal of Family Psychology, 24*, 280–288. doi:10.1037/a0019405
- Babor, T. F., Higgins-Biddle, J. C., Saunders, J. B., & Monteiro, M. G. (2001). *The alcohol use disorders identification test* (2nd ed.). Geneva, Switzerland: World Health Organization, Department of Mental Health and Substance Dependence.
- Beach, S., & Whisman, M. (2012). Affective disorders. *Journal of Marital and Family Therapy, 38*, 201–219. doi:10.1111/j.1752-0606.2011.00243.x
- Beck, A., Steer, R., & Brown, G. (1996). *Beck Depression Inventory* (2nd ed.). San Antonio, TX: Psychological Corporation.
- Bell, N., Harford, T., Fuchs, C., McCarroll, J., & Schwartz, C. (2006). Spouse abuse and alcohol problems among White, African American, and Hispanic U.S. Army soldiers. *Alcoholism: Clinical and Experimental Research, 30*, 1721–1733. doi:10.1111/j.1530-0277.2006.00214.x
- Berry, J. O., & Jones, W. H. (1995). The parental stress scale: Initial psychometric evidence. *Journal of Social and Personal Relationships, 12*, 463–472. doi:10.1177/0265407595123009
- Boudewyns, P., Albrecht, J., Talbert, F., & Hyer, L. (1991). Comorbidity and treatment outcome of inpatients with chronic combat-related PTSD. *Hospital and Community Psychiatry, 42*, 847–849.
- Breslau, N., Peterson, E. L., Kessler, R. C., & Schultz, L. R. (1999). Short screening scale for DSM-IV posttraumatic stress disorder. *The American Journal of Psychiatry, 156*, 908–911.
- Busby, D. M., Christensen, C., Crane, D. R., & Larson, J. H. (1995). A revision of the Dyadic Adjustment Scale for use with distressed and nondistressed couples: Construct hierarchy and multidimensional scales. *Journal of Marital and Family Therapy, 21*, 289–308. doi:10.1111/j.1752-0606.1995.tb00163.x
- Chandra, A., Lara-Cinisomo, S., Jaycox, L., Tanielian, T., Burns, R. M., Ruder, T., & Han, B. (2010). Children on the homefront: The experience of children from military families. *Pediatrics, 125*, 16–25. doi:10.1542/peds.2009-1180
- Christensen, A., & Jacobson, N. S. (2002). *Reconcilable differences*. New York, NY: Guilford.
- Cozza, S. J., Chun, R. S., & Polo, J. A. (2005). Military families and children during Operation Iraqi Freedom. *Psychiatric Quarterly, 76*, 371–378. doi:10.1007/s11126-005-4973-y
- Deputy Under Secretary of Defense, Military Community and Family Policy. (2010). *Profile of the military community: DoD 2008 demographics*. Alexandria, VA: ICF International.
- Derrick, J. L., Leonard, K. E., Quigley, B. M., Houston, R. J., Testa, M., & Kubiak, A. (2010). Relationship-specific alcohol expectancies in couples with concordant and discrepant drinking patterns. *Journal of Studies on Alcohol and Drugs, 71*, 761–768.
- Eiden, R., Chavez, F., & Leonard, K. (1999). Parent-infant interactions among families with alcoholic fathers. *Development and Psychopathology, 11*, 745–762. doi:10.1017/S0954579499002308
- Erbes, C. R., Westermeyer, J., Engdahl, B., & Johnsen, E. (2007). Posttraumatic stress disorder and service utilization in a sample of service members from Iraq and Afghanistan. *Military Medicine, 172*, 359–363.
- Fitzgerald, H. E., Zucker, R. A., Puttler, L. I., Caplan, H. M., & Mun, E. Y. (2000). Alcohol abuse/dependence in women and girls: Etiology, course, and subtype variations. *Alcoscope: International Review of Alcoholism Management, 3*, 6–10.
- Floyd, F. J., Cranford, J. A., Daugherty, M. K., Fitzgerald, H. E., & Zucker, R. A. (2006). Marital interaction in alcoholic and nonalcoholic couples: Alcoholic subtype variations and wives' alcoholism status. *Journal of Abnormal Psychology, 115*, 121–130. doi:10.1037/0021-843X.115.1.121
- Foran, H. M., Smith Slep, A. M., & Heyman, R. E. (2011). Hazardous alcohol use among active duty Air Force personnel: Identifying unique risk and promotive factors. *Psychology of Addictive Behaviors, 25*, 28–40. doi:10.1037/a0020748
- Gewirtz, A. H., Polusny, M. A., DeGarmo, D. S., Khaylis, A., & Erbes, C. R. (2010). Posttraumatic stress symptoms among National Guard soldiers deployed to Iraq: Associations with parenting behaviors and couple adjustment. *Journal of Consulting and Clinical Psychology, 78*, 599–610. doi:10.1037/a0020571
- Gibbs, D. A., Martin, S. L., Kupper, L. L., & Johnson, R. E. (2007). Child maltreatment in enlisted soldiers' families during combat-related deployments. *The Journal of the American Medical Association, 298*, 528–535. doi:10.1001/jama.298.5.528
- Gorman, L. A. (2009). Dyadic factors associated with post-deployment adjustment for National Guard Couples (Doctoral dissertation). Retrieved from ProQuest Dissertations and Theses (Accession Order No. AAT 3381251).
- Gorman, L. A., Blow, A. J., Ames, B., & Reed, P. (2011). National Guard families after combat: Mental health, use of mental health services, and perceived treatment barriers. *Psychiatric Services, 62*, 28–34.

- Gorman, L. A., Blow, A. J., Kashy, D. A., Fitzgerald, H. E., Ames, B. D., Spira, J. L., & Valenstein, M. (2012). *Psychological symptoms and functioning of National Guard couples following deployment*. Unpublished manuscript, Michigan Public Health Institute, Okemos, Michigan.
- Graham, K., & Braun, K. (1999). Concordance of use of alcohol and other substances among older adult couples. *Addictive Behaviors, 24*, 839–856. doi:10.1016/S0306-4603(99)00059-3
- Homish, G. G., & Leonard, K. E. (2005). Marital quality and congruent drinking. *Journal of Studies on Alcohol, 66*, 488–496.
- Homish, G. G., & Leonard, K. E. (2007). The drinking partnership and marital satisfaction: The longitudinal influence of discrepant drinking. *Journal of Consulting and Clinical Psychology, 75*, 43–51. doi:10.1037/0022-006X.75.1.43
- Jacobson, I. G., Ryan, M. A., Hooper, T. I., Smith, T. C., Amoroso, P. J., Boyko, E. J., . . . Bell, N. S. (2008). Alcohol use and alcohol-related problems before and after military combat deployment. *Journal of the American Medical Association, 300*, 663–675. doi:10.1001/jama.300.6.663
- Johnson, S. M. (2000). The “coming of age” of couple therapy: A decade review. *Journal of Marital and Family Therapy, 26*, 23–38. doi:10.1111/j.1752-0606.2000.tb00273.x
- Johnson, S. M. (2002). *Emotionally focused couple therapy with trauma survivors: Strengthening attachment bonds*. New York, NY: Guilford.
- Karney, B. R., Ramchand, R., Osilla, K. C., Caldarone, L. B., & Burns, R. M. (2008). *Invisible wounds: Predicting the immediate and long-term consequences of mental health problems in Veterans of Operation Enduring Freedom and Operation Iraqi Freedom*. Retrieved from http://www.rand.org/pubs/working_papers/2008/RAND_WR546.pdf
- Kenny, D. A., Kashy, D. A., & Cook, W. L. (2006). *Dyadic data analysis*. New York, NY: Guilford Press.
- Leonard, K., Eiden, R., Wong, M., Zucker, R., Puttler, L., Fitzgerald, H., . . . & Mudar, P. (2000). Developmental perspectives on risk and vulnerability in alcoholic families. *Alcoholism: Clinical and Experimental Research, 24*, 238–240. doi:10.1111/j.1530-0277.2000.tb04597.x
- MacDermid, S. M. (2006). *Multiple transitions of deployment and reunion for military families*. Retrieved from <http://www.cfs.purdue.edu/mfri/DeployReunion.ppt>
- MacDermid Wadsworth, S. M. (2010). Family risk and resilience in the context of war and terrorism. *Journal of Marriage and Family, 72*, 537–556. doi:10.1111/j.1741-3737.2010.00717.x
- Mansfield, A., Kaufman, J., Marshall, S., Gaynes, B., Morrissey, J., & Engel, C. (2010). Deployment and the use of mental health services among U.S. Army Wives. *The New England Journal of Medicine, 362*, 101–109. doi:10.1056/NEJMoA0900177
- Marshall, M. P. (2003). For better or worse? The effects of alcohol use on marital functioning. *Clinical Psychology Review, 23*, 959–997. doi:10.1016/j.cpr.2003.09.002
- Marshall, A. D., Panuzio, J., & Taft, C. T. (2005). Intimate partner violence among military veterans and active duty servicemen. *Clinical Psychology Review, 25*, 862–876. doi:10.1016/j.cpr.2005.05.009
- Martin, A., Rief, W., Klaiberg, A., & Braehler, E. (2006). Validity of the Brief Patient Health Questionnaire Mood Scale (PHQ-9) in the general population. *General Hospital Psychiatry, 28*, 71–77. doi:10.1016/j.genhosppsych.2005.07.003
- Matheny, A., Wachs, T., Ludwig, J., & Phillips, K. (1995). Bringing order out of chaos: Psychometric characteristics of the confusion, hubbub, and order scale. *Journal of Applied Developmental Psychology, 16*, 429–444. doi:10.1016/0193-3973(95)90028-4
- Meis, L. A., Barry, R. A., Kehle, S. M., Erbes, C. R., & Polusny, M. A. (2010). Relationship adjustment, PTSD symptoms, and treatment utilization among coupled National Guard soldiers deployed to Iraq. *Journal of Family Psychology, 24*, 560–567. doi:10.1037/a0020925
- Meis, L. A., Erbes, C. R., Polusny, M. A., & Compton, J. S. (2010). Intimate relationships among returning soldiers: The mediating and moderating roles of negative emotionality, PTSD symptoms, and alcohol problems. *Journal of Traumatic Stress, 23*, 564–572. doi:10.1002/jts.20560
- Mudar, P., Leonard, K. E., & Soltysinski, K. (2001). Discrepant substance use and marital functioning in newlywed couples. *Journal of Consulting and Clinical Psychology, 69*, 130–134. doi:10.1037/0022-006X.69.1.130
- National Center for Health Statistics. (2007). *Health, United States, 2007: With chartbook on trends in the health of Americans*. Retrieved from <http://www.cdc.gov/nchs/data/hsus/hsus07.pdf>
- Nolen-Hoeksema, S., Wong, M. M., Fitzgerald, H. E., & Zucker, R. A. (2006). Depressive symptoms over time in women partners of men with and without alcohol problems. *Journal of Abnormal Psychology, 115*, 601–609. doi:10.1037/0021-843X.115.3.601
- Pincus, S. H., House, R., Christenson, J., & Adler, L. E. (2001). The emotional cycle of deployment: A military family perspective. *Journal of the Army Medical Department, 2*, 15–23.
- Roberts, L. J., & Leonard, K. E. (1998). An empirical typology of drinking partnerships and their relationship to marital functioning and drinking consequences. *Journal of Marriage and the Family, 60*, 515–526. doi:10.2307/353866
- Roberts, L. J., & Linney, K. D. (2000). Alcohol problems and couples: Drinking in an intimate relational context. In K. B. Schmaling & T. G. Sher (Eds.), *The psychology of couples and illness: Theory, research, and practice* (pp. 269–310). Washington, DC: American Psychological Association.
- Rotunda, R. J., O’Farrell, T. J., Murphy, M., & Babey, S. H. (2008). Behavioral couples therapy for comorbid substance use disorders and combat-related posttraumatic stress disorder among male veterans: An initial evaluation. *Addictive Behaviors, 33*, 180–187. doi:10.1016/j.addbeh.2007.06.001
- Saunders, J., Aasland, O., Babor, T., de la Fuente, J., & Grant, M. (1993). Development of the Alcohol Use Disorders Identification Test: WHO collaborative project on early detection of persons with harmful alcohol consumption—II. *Addiction, 88*, 791–804. doi:10.1111/j.1360-0443.1993.tb02093.x
- Sayers, S., Farrow, V., Ross, J., & Oslin, D. (2009). Family problems among recently returned military veterans referred for a mental health evaluation. *Journal of Clinical Psychiatry, 70*, 163–170. doi:10.4088/JCP.07m03863
- Spera, C., Thomas, R. K., Barlas, F., Szoc, R., & Cambridge, M. H. (2011). Relationship of military deployment recency, frequency, duration, and combat exposure to alcohol use in the Air Force. *Journal of Studies on Alcohol and Drugs, 72*, 5–14.
- Steinglass, P., Bennett, L. A., Wolin, S. J., & Reiss, D. (1987). *The alcoholic family*. New York, NY: Basic Books.
- Weathers, F. W., Litz, B. T., Herman, J. A., Huska, J. A., & Keane, T. M. (1993, October). *The PTSD Checklist (PCL): Reliability, validity and diagnostic utility*. Paper presented at the 9th Annual Conference of the ISTSS, San Antonio, TX.
- Whipple, E., Fitzgerald, H., & Zucker, R. (1995). Parent-child interactions in alcoholic and nonalcoholic families. *The American Journal of Orthopsychiatry, 65*, 153–159. doi:10.1037/h0079593
- Whisman, M. A., Uebelacker, L. A., & Bruce, M. L. (2006). Longitudinal association between marital discord and alcohol use disorders in a community sample. *Journal of Family Psychology, 20*, 164–167. doi:10.1037/0893-3200.20.1.164
- Wiersma, J. D., Cleveland, H. H., Herrera, V., & Fischer, J. L. (2010). Intimate partner violence in young adult dating, cohabitating, and married drinking partnerships. *Journal of Marriage and Family, 72*, 360–374. doi:10.1111/j.1741-3737.2010.00705.x

Received September 12, 2011

Revision received December 4, 2012

Accepted December 13, 2012 ■